

## 6.10 Example J: A Biaxial Load

### Sample Input File For A Biaxial Load

The following example is used to explain how to impose a biaxial load state.

#### Problem Summary:

Load Type:	Mechanical
Load History:	Monotonic
Load Control:	Strain
Load History Data:	$\dot{\epsilon}_{11} = 0.01 \text{ /sec}$ , $\dot{\epsilon}_{22} = 0.0067 \text{ /sec}$ $\epsilon_{11max} = 0.015$ $\epsilon_{22max} = 0.01$ , $\Delta t_{constant} = 0.015 \text{ sec}$
Micromechanics model:	Double Periodic
Fiber Packing Arrangement:	Square Pack at 35% fiber volume ratio
Integration Algorithm:	Forward Euler
Constituent Material Model:	GVIPS
Constituents:	Fiber: SCS-6 (GVIPS forced to be elastic) Matrix: TIMETAL 21S

test of biaxial load  
\*PRINT  
  NPL=7 %  
\*LOAD  
  LCON=2 LOP=7 LSS=1 %  
\*MECH  
  NPTW=2 TI=0.,1.5 LO=0.,0.015  
  NPTW=2 TI=0.,1.5 LO=0.,0.010 %  
\*MODEL  
  MOD=1 %  
\*SOLVER  
  NTF=1 NPTS=2 TIM=0.,1.5 STP=0.015 %  
\*FIBER  
  NFIBS=1  
  NF=1 MF=4 NDPT=1 MAT=U IFM=1&  
  EL=58.E3,0.32,3.5E-06 &  
  VI=0.8E-9,1.E20,0.1E-5,0.,0.85E-4,0.05,1.,1.,1.,3.3,1.8,1.35,1.,0.01 %  
\*MATRIX  
  NMATX=1  
  NM=1 MM=4 NDPT=1 TEMP=650. MAT=A %  
\*MRVE  
  IDP=1 VF=0.35 %  
\*CURVE  
  NP=1 %  
\*MACRO  
  NT=2  
  NC=1 X=1 Y=7 NAM=baxl  
  NC=2 X=2 Y=8 NAM=baxt %  
\*END

The following figure was obtained from the x-y plot data file produced by the present example.

